

PIPING LEGEND

	GLOBE VALVE (OUTSIDE SCREW & YOKE UNLESS SPECIFIED OTHERWISE)
	BALL VALVE
	BUTTERFLY VALVE
	HOSE END BALL VALVE WITH CAP AND CHAIN
	PLUG VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE (SILENT CHECK TYPE ON PUMP DISCHARGE)
	STRAINER WITH HOSE END BLOWOFF VALVE, CAP AND CHAIN
	2-WAY MODULATING PRESSURE INDEPENDENT ACV
	2-WAY AUTOMATIC CONTROL VALVE (MODULATING)
	2-WAY AUTOMATIC CONTROL VALVE (TWO POSITION)
	3-WAY AUTOMATIC CONTROL VALVE (MODULATING)
	TRIPLE DUTY PUMP VALVE, CHECK, BALANCING (FLOW METER), SHUT-OFF
	RELIEF/SAFETY VALVE
	UNION
	BLIND FLANGE
	PIPE - CAPPED
	DIRECTION OF FLOW
	PIPE ANCHOR
	PIPE GUIDE
	PIPE CONNECTION - TOP
	PIPE CONNECTION - BOTTOM
	PIPE - DOWN
	PIPE - UP
	RISE (DOUBLE LINE - PLAN VIEW)
	DROP (DOUBLE LINE - PLAN VIEW)
	PIPE BREAK (DOUBLE LINE)
	PIPE BREAK (SINGLE LINE)

CALLOUT SYMBOLS

	CONNECT NEW TO EXISTING
	LIMIT OF DEMOLITION

PIPING ABBREVIATIONS

---	D	DRAIN
---	FOR	FUEL OIL RETURN
---	FOS	FUEL OIL SUPPLY
---	HWR	HOT WATER RETURN
---	HWS	HOT WATER SUPPLY
+++	(NAME)	REMOVE EXISTING PIPING
---	HCR	HOT/COLD WATER RETURN
---	HCS	HOT/COLD WATER SUPPLY

ABBREVIATIONS

GENERAL			
AFF	ABOVE FINISHED FLOOR	PSID	POUNDS PER SQUARE INCH DIFFERENTIAL
AP	ACCESS PANEL	PSIG	POUNDS PER SQUARE INCH GAUGE
ATC	AUTOMATIC TEMPERATURE CONTROL	REQ'D	REQUIRED
CFM	CUBIC FEET PER MINUTE	T	TEMPERATURE
DN	DOWN	TYP	TYPICAL
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	X	EXISTING EQUIPMENT TO BE REMOVED
EXIST.	EXISTING	XM	EXISTING EQUIPMENT TO REMAIN
GAL	GALLONS	XN	NEW LOCATION OF RELOCATED EQUIPMENT
GALV	GALVANIZED	XR	EXISTING EQUIPMENT TO BE RELOCATED
GC	GENERAL CONTRACTOR		
GPM	GALLONS PER MINUTE	BOILER	
HD	HEAD	B	BOILER
MAX	MAXIMUM		HOT WATER
MBH	THOUSAND BTUH		
MCA	MINIMUM CIRCUIT AMPS	HW	HOT WATER
MECH	MECHANICAL	HWR	HOT WATER RETURN
MIN	MINIMUM	HWS	HOT WATER SUPPLY
N/A	NOT APPLICABLE	PIPING	
NTS	NOT TO SCALE		
PSI	POUNDS PER SQUARE INCH	MU	MAKE-UP WATER
PSIA	POUNDS PER SQUARE INCH ABSOLUTE		

HVAC DEMOLITION NOTES

- THE DEMOLITION PLANS INDICATE THE GENERAL INTENT AND ARE NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED.
- THE LOCATIONS OF EXISTING EQUIPMENT INCLUDING PIPING, DUCTWORK, EQUIPMENT, CONDUITS, ETC ARE SHOWN IN AN APPROXIMATE WAY ONLY. VISIT THE SITE PRIOR TO SUBMISSION OF THE BIDS AND COMMENCEMENT OF WORK TO BECOME FAMILIAR WITH THE ACTUAL CONDITIONS AND EXTENT OF THE WORK.
- TRACE AND LABEL ALL EXISTING SYSTEMS WITHIN THE DEMOLITION AREA AND BEYOND PRIOR TO DISCONNECTION AND REMOVAL TO ENSURE THAT NO AREA OUTSIDE THE DEMOLITION AREA IS AFFECTED. REVIEW IN DETAIL WITH THE GENERAL CONTRACTOR AND OWNER WHAT IS TO BE REMOVED AND REMAIN PRIOR TO WORK COMMENCING THE DEMOLITION. THERE SHALL BE NO INTERRUPTION OF SERVICES OUTSIDE THE DEMOLITION AREA WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- COORDINATE EQUIPMENT REMOVAL WITH ALL PARTIES TO PROVIDE DISCONNECTION. REMOVE EQUIPMENT BY UNFASTENING AT THE SUPPORTS OR ATTACHMENTS. ALSO REMOVE THE ATTACHMENTS FROM THE BUILDING, LEAVING NO COMPONENT OF THE ORIGINAL INSTALLATION.
- EXERCISE CARE WITH EQUIPMENT THAT IS TO BE RELOCATED OR TURNED OVER TO THE OWNER. EXAMINE THE EQUIPMENT BEFORE REMOVAL IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE TO DETERMINE ITS CONDITION. DELIVER OWNER-RETAINED EQUIPMENT TO AN ON-SITE LOCATION DESIGNATED BY THE OWNER AND OBTAIN ACKNOWLEDGMENT OF RECEIPT IN ORIGINAL CONDITION.
- INSTALL RELOCATED EQUIPMENT IN ORIGINAL CONDITION ENSURING NO DAMAGE.
- PROMPTLY REPAIR ANY DAMAGE CAUSED DURING/BY THE EXECUTION OF WORK. DAMAGE INCLUDES BUT IS NOT LIMITED TO DESTRUCTION OF ITEMS INTENDED TO REMAIN OR TO BE SALVAGED.
- NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING THE DEMOLITION.
- ALL ITEMS REMOVED SHALL BE OFFERED TO THE OWNER FOR SALVAGE. IF THE OWNER DOES NOT TAKE POSSESSION, DISPOSE OF THE ITEMS IN A SAFE AND LEGAL MANNER. ALL ITEMS CLASSIFIED AS HAZARDOUS SHALL BE DISPOSED AS HAZARDOUS WASTES AND A UNIFORM HAZARDOUS WASTE MANIFEST SHALL BE PROVIDED TO THE OWNER.
- ENSURE THE SAFE PASSAGE OF PERSONS IN AND AROUND THE BUILDING DURING DEMOLITION. PREVENT INJURY TO PERSONS AND DAMAGE TO PROPERTY. PROVIDE ADEQUATE SHORING AND BRACING TO PREVENT COLLAPSE. IMMEDIATELY REPAIR DAMAGED PROPERTY TO THE CONDITION BEFORE BEING DAMAGED. TAKE EFFECTIVE MEASURES TO PREVENT WINDBLOWN DUST.
- DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS PIPE INTERIORS OR SHAFTS. VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN FIRE WATCH AND PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS. MAINTAIN ADEQUATE VENTILATION WHEN USING CUTTING TORCHES.
- DRAIN, PURGE, OR OTHERWISE REMOVE, COLLECT, AND PROPERLY DISPOSE OF CHEMICALS, LIQUIDS, GASES, EXPLOSIVES, ACIDS, FLAMMABLES, OR OTHER DANGEROUS MATERIALS BEFORE PROCEEDING WITH DEMOLITION OPERATIONS. EXISTING FUEL OIL STORAGE TANK CONTAINS APPROXIMATELY 10,000 GALLONS OF #2 FUEL OIL. CONTRACTOR TO INCLUDE DRAINING AND DISPOSAL OF FUEL OIL IN BASE BID. FUEL OIL TO BE DISPOSED OF ACCORDING TO LOCAL REGULATIONS.
- PROPERLY LABEL ALL UNLABELED PIPES THAT REMAIN WITH COLOR PIPE MARKERS AND VALVE TAGS. MOUNT A VALVE AND SERVICE CHART IN THE AREA OF DEMOLITION THAT IDENTIFIES ALL LABELED SERVICES. TURN ONE COPY OF SAME OVER TO THE OWNER.
- ALL DEMOLITION SCOPE ASSOCIATED WITH LOW VOLTAGE WIRING FOR CONTROLS AND ASSOCIATED INTERLOCKS SHALL BE INCLUDED IN THIS CONTRACT.

HVAC GENERAL NOTES

- GENERAL NOTES APPLY TO ALL DRAWINGS.
- THIS PROJECT INVOLVES CONSTRUCTION INSIDE AN EXISTING STRUCTURE. CONTRACTORS, BY SUBMITTING A BID, ARE DEEMED TO BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITION OF THE BUILDING AS IT INFLUENCES THE WORK DESCRIBED. ABSOLUTELY NO CLAIMS FOR EXTRA COMPENSATION WILL BE CONSIDERED FOR EXISTING CONDITIONS VISIBLE OR REASONABLY INFERRABLE FROM A CAREFUL EXAMINATION OF THE EXISTING BUILDING.
- THIS CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND THE "AS-BUILT" BASE BUILDING CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE WHAT EFFECT THE EXISTING CONDITIONS WILL HAVE ON HIS WORK. POTENTIAL PROBLEM AREAS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- THIS CONTRACTOR SHALL CONNECT HIS WORK TO VARIOUS EXISTING PIPING, DUCTWORK, AND CONTROL SYSTEMS IN THE BASE BUILDING. THE NEW WORK SHALL BE COMPATIBLE WITH THE EXISTING SYSTEMS. LOCATION OF EQUIPMENT OR THE ROUTING OF THE VARIOUS SYSTEMS AS WELL AS OPENINGS IN FLOOR SLABS OR WALLS SHALL BE GOVERNED BY THE EXISTING CONDITIONS AS THEY APPEAR IN THE FIELD OR ON THE "AS-BUILT" DRAWINGS.
- CARE SHALL BE TAKEN DURING THE INSTALLATION TO NOT DAMAGE OR INTERRUPT BUILDING SYSTEMS AND SERVICES THAT ARE ALREADY INSTALLED. DAMAGE TO SUCH SYSTEMS OR EQUIPMENT CAUSED BY THIS CONTRACTOR DURING INSTALLATION SHALL BE REPAIRED AND/OR REPLACED AT THIS CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE BUILDING OWNER.
- SHUTDOWN OF EXISTING SYSTEMS FOR CONNECTION TO EXISTING SERVICES SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR AND BUILDING OWNER. THIS CONTRACTOR SHALL SUBMIT REQUESTS, WHERE THEY AFFECT THE OPERATION OF THE BUILDING SYSTEMS, AT LEAST ONE WEEK IN ADVANCE OF ANY REQUIRED SHUTDOWN. THE ACTUAL SHUTDOWN PERIOD SHALL BE AS SHORT AS POSSIBLE AND AT A TIME MUTUALLY AGREEABLE TO THE BUILDING OWNER AND THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR.
- DRAWINGS ARE DIAGRAMMATIC. THEREFORE DETERMINE EXACT LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.
- ALL WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AND DUCTS (INCLUDING DIVIDED DUCTS) AND TRANSITIONS AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT AND/OR PIPE TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
- ALL MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY INDICATED AS REUSED, SHALL BE NEW.
- EXISTING ROOM THERMOSTATS AND SENSORS SHALL BE PROTECTED DURING CONSTRUCTION AND RELOCATED AS INDICATED ON THE DRAWINGS. INSTALL NEW AND RELOCATED ROOM THERMOSTATS AND SENSORS 4 FEET AFF OR AS DIRECTED OTHERWISE BY ARCHITECT.
- CONTRACTOR SHALL PROVIDE THE FOLLOWING SERVICES, AS APPLICABLE, ON ALL EXISTING HVAC EQUIPMENT INDICATED TO BE REUSED: 1) FILTER CHANGES, 2) BALANCING, 3) LUBRICATION. CONTRACTOR SHALL REPORT ANY EQUIPMENT DEFICIENCIES FOUND TO THE ARCHITECT AND/OR ENGINEER.
- THE FIRE PROOFING OF THE BUILDING STRUCTURE IS NOT TO BE REMOVED FOR THE INSTALLATION OF HANGERS, SUPPORTS, DUCTWORK, ETC. IF FIRE PROOFING IS DAMAGED, IT SHALL BE REPAIRED AT THE EXPENSE OF THE TRADE.
- CONTRACTOR SHALL TEST AND CALIBRATE ALL CONTROLS AND VERIFY ALL ARE FULLY FUNCTIONAL AND SUBMIT DOCUMENTATION. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE AND SUBMIT DOCUMENTATION FOR TESTING AND BALANCING OF ALL AIR AND WATER SYSTEMS, DUCT AND PIPING PRESSURE AND LEAKAGE TESTS, OPERATING AND MAINTENANCE MANUALS, AND AS BUILT DRAWINGS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- REFER TO THE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.
- MANY EQUIPMENT SCHEDULES DO NOT LIST QUANTITIES. CONTRACTOR SHALL REFER TO ALL DRAWINGS AND PROVIDE THE REQUIRED QUANTITIES FOR ALL COMPONENTS.
- THESE DRAWINGS ARE NOT COMPLETE AND THERE WILL BE REVISIONS ISSUED.

REVISIONS

▲ DATE CHK DESCRIPTION

DATE	CHK	DESCRIPTION

SEAL

PROJECT

NUMBER 0190327

DATE 07/18/2019

BLUEBERRY HILL
SCHOOL BOILER
REPLACEMENT

DRAWING

DRAWN BY SRL

CHECKED BY JFL

SCALE 1/8" = 1'-0"

HVAC LEGENDS
AND NOTES

CONSTRUCTION DOCUMENTS

07-18-2019